

SECOND DRAFT AGU/EOS OBITUARY (GOAL = FINAL ON THURSDAY-2/04/99)

Current Candidate Photograph of Henry is the one of Henry cradling his beloved Sojourner, the photo that's posted on his USGS Web Site - <http://mars.wr.usgs.gov/~hmoore/henry.html>. Perhaps, we can white out the background with Photoshop.

Henry (Hank) J. Moore (1928–1998)

Henry (Hank) Moore, a member of the AGU Planetology section, died of a heart attack on September 21, 1998. He was in Utah while on a family car trip to visit his daughter. His 70th birthday occurred just 3 weeks before his death. Henry, who was born in Albuquerque, New Mexico, took great pride in having found and visited the small town of Albuquerque in the Extremadura region of Spain, noting the geologic similarities between that part of Spain and his birthplace in America.

Henry, known for his contributions to the Apollo, Viking, Magellan, and Mars Pathfinder Missions, attributed his career to a chance encounter with Gene Shoemaker in 1960. Henry was completing his Ph.D. work in Geology at Stanford University and Gene obviously had spotted Henry's keen analytical mind. I suspect this pivotal meeting was far from a chance encounter. They went on to be charter members of the Center for Astrogeology at the Menlo Park and Flagstaff offices of the United States Geological Survey. Their early work involved studies of missile impact craters at White Sands, New Mexico. Henry's meticulous mapping of crater ejecta and secondary craters strengthened Gene's fledgling hypotheses that lunar craters were impacts and not volcanic (a topic of scientific debate in the 1960's).

Henry excelled at soil mechanics and his work (more than any other) merged the science and engineering aspects of "where the rubber meets the road" when we earthlings walk, ride and send spacecraft to other planets. An early classic work is a USGS Report on Lunar Rover Mobility in the late 1960's which contains many hand plots of the pertinent data (one of Henry's hallmarks). Whereas most of us now use rapid computer plotting of data, Henry throughout his career used judicious and precise hand plotting of data as a means of thoroughly understanding it's meaning. Dale Ferguson, an astronomer colleague, notes that Henry had a talent for deriving the maximum information from the minimum amount of data. This aptly describes Henry's ability to determine the physical properties of planetary surfaces on centimeter and meter scales from the kilometer sized pixels remotely sensed data. Henry in his resume took pride in his pioneering Apollo era cooperative studies of the Moon using Earth-based infrared radar and visual data.

Henry played a key role in landing site selection for the Viking Mission. Len Tyler of Stanford worked on Viking and notes that Henry was a strong advocate for examining all of the radar, visual imaging and infrared data for the Chryse landing site. His critical evaluation of the site selection assumptions led to a change in the landing site that in turn assured the safe landing of the Viking Spacecrafts. Henry contributed to Viking from beginning to end as a Member of the Physical Properties Team. After Viking, Henry was a Magellan Volcanics Team investigator and an advocate for stereographic imaging (one of the highlights of Magellan's second mission cycle). Henry was the chief author of an article entitled "An Unusual Volcano on Venus" that appeared in the JGR Special Issue, Magellan at Venus, in August 1992. Leave it to Henry to tackle the most enigmatic large volcano on our sister planet and provide an understanding of what really happened.

Although Henry retired in 1994, he will be remembered as Rover Scientist for the Mars Pathfinder mission in 1997. His contribution is described in the preface to JGR Special issue on Mars Pathfinder (to be published this year). Matt Golombek, Mars Pathfinder Scientist, notes that Henry played a key role in the selection of the landing site by producing surface slope and engineering estimates for the landing site. Once again, his estimations of surface characteristics at meter scale surface properties from remotely sensed data with kilometer resolutions led to Pathfinder's safe landing. The Mars-2001 Mission will adopt Henry's criteria for selecting safe landing sites. Henry's fondness for the Pathfinder Mission and its rover, Sojourner, shows in the photograph above. His Pathfinder colleagues remember that he was called upon to adjudicate a scientific debate (a bet involving potables) between Matt Golombek and Ray Arvidson. Ray had argued for the presence of outcrops, Matt had argued against outcrops. Henry ruled in favor of no outcrops. Pathfinder rocks named by Henry include Quick Draw McGraw and Baba Looey, television cartoon characters from the 1960's (which he watched with his young sons).

Further information about Henry is posted on his USGS web site (<http://mars.wr.usgs.gov/~hmoore/henry.html>.) I remember a recent candid photo of him standing in his office with the door wide open. Henry went out of his way to host USGS summer interns. One intern, Nathan Bridges, was Henry's teammate on the Pathfinder Science Team. And Henry took great pride in passing knowledge of our planetary enterprises onto the general public (as can be seen from the teacher plans posted on his USGS Web Site). When I worked with Henry 10 years ago, his computer password was appropriately, "sirhenry". Henry was indeed a gentleman and a scholar, and used his talents to understand the physical properties of the planetary surfaces in a way that benefited both science and engineering. This assured our space program with the safe landings on the Moon and Mars.

Thomas W. (Tommy) Thompson worked with Henry Moore on several occasions. They led parallel, collaborative lunar synthesis projects during Apollo. They collaborated in the mid 1980's on detection studies of craters in lunar images and produced a radar-geologic model of Mars. Both worked on the Magellan Mission in the 1990's.